EV Readiness Toolkit for Public Parking

Resources for organizations that want to provide EV charging stations in parking lots.

1 LEVEL 1

2 LEVEL 2

3 DCFC

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Charging Station Lingo

EVSE — Electric Vehicle Service Equipment; the charging station and all its components

Level 1 — A wall plug and the cord that comes with the car, or a portable charging station that plugs into a wall outlet. Level 1 gives 4-6 miles of range per hour of charging.

Level 2 — A charging station mounted on the wall or on a pedistal and connected to the electrical supply. Level 2 gives 12-24 miles of range per hour of charging.

DCFC — Direct Current Fast Charger is a charging station mounted on a pedistal and a high-voltage power supply. DCFC can fully charge an empty battery in an hour or less.

Smart Charging – An EVSE that is connected to a network and can communicate

Dwell Time — The length of time a car sits still before moving to a different destination

Ports — The number of handles or connectors on a charging station

Infrastructure — Includes all the equipment needed to bring electricity from the utility to the building's electrical panel and then to the charging station.

Survey Questions

Consider creating an online survey and posting a QR code with a link to the survey throughout the parking structure to get input from drivers.

Do you own a plug-in hybrid electric vehicle (PHEV) or battery-electric vehicle (EV)?

- ❒ No
- ❒ Yes What model? _____

If you answered no, are you considering buying or leasing a PHEV or EV? If so, when?

- ❒ This year or next year
- ❒ Within two years
- ❒ Longer than two years
- ❒ Not considering a PHEV or EV

How far did you drive from home or work to park in this lot today?

- ❒ Less than 10 miles
- ❒ 10-25 miles
- ❒ 26-50 miles
- ❒ More than 50 miles

How often do you use this parking lot?

- ❒ 3 times a week or more
- ❒ Once or twice a week
- ❒ Less than once a week
- ❒ Every so often/just this one time

When you park here, about how long are you parked?

- ❒ All day (or evening/night)
- ❒ For at least four hours
- ❒ At least one hour
- ❒ In-and-out in less than 20 minutes

If we installed charging stations, would you be willing to pay for the electricity to charge your car?

- ❒ Yes, a flat fee per week or month
- ❒ Yes, through a credit card or phone app
- ❒ Yes, but only for fast charging (Slow charging should be free.)
- ❒ No
- ❒ Other: _____

Policies

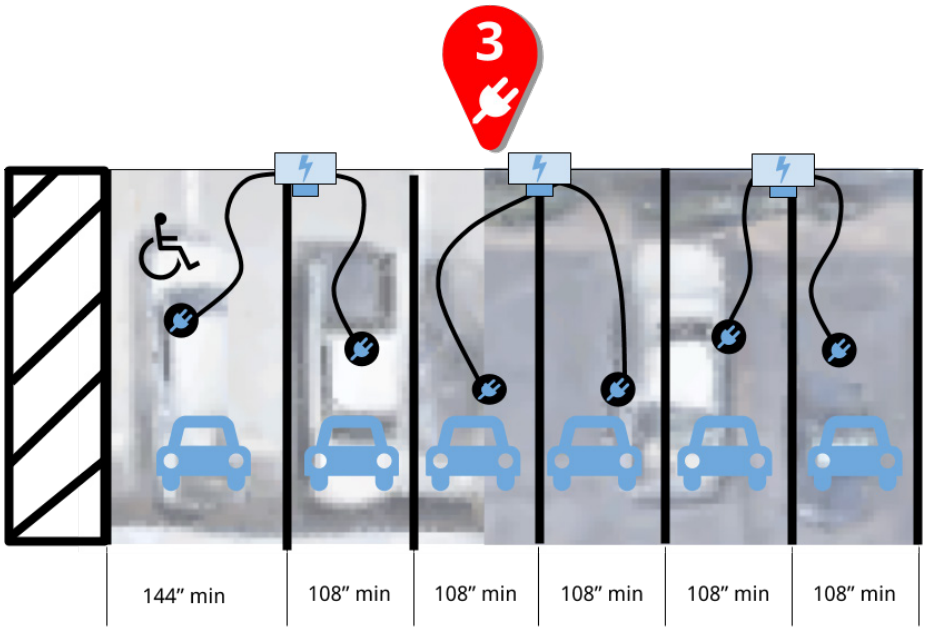
Written policies ensure that everyone has the same understanding about responsibilities and how you will communicate them to the drivers in your parking lot. You might not need all the policies.

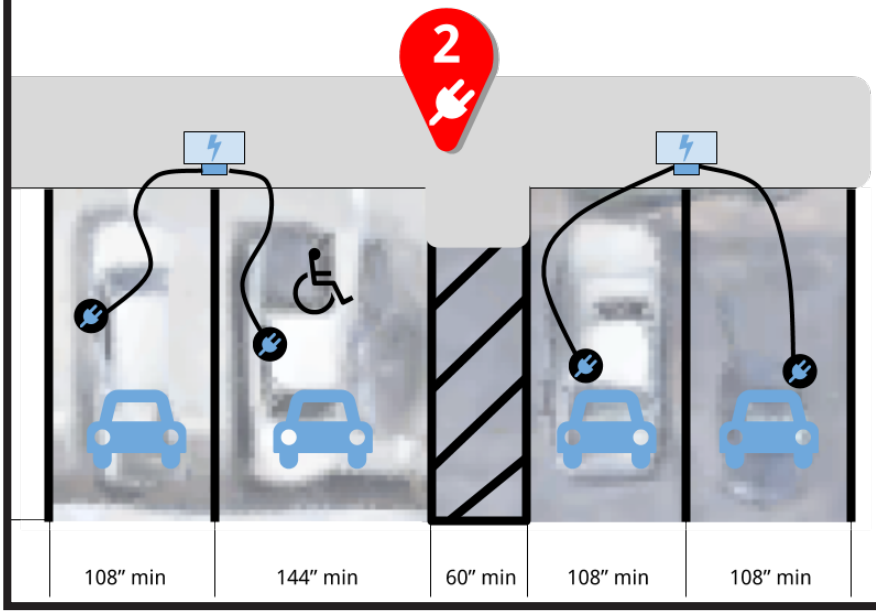
- Communicate how can drivers report a charging station that is damaged or not working, and who is responsible for resolving the problem.
- Identify who is responsible for inspecting charging stations to ensure they are in working order and the frequency of inspection.
- Identify someone to monitor the charging stations apps for comments that drivers post about your charging stations. Decide on a process to respond to complaints.
- If your parking lot charges by the hour, decide if you will offer a discount for EV drivers:
  - During the peak hours for parking lot use
  - During off-peak hours for parking lot use
  - During special events
- If your parking lot uses monthly paid passes, will you ask EV drivers to register their cars? Describe how drivers will register and with whom.
- Are drivers limited to certain amount of time at the charging station (usually four hours for Level 2 and one hour for DC Fast Charging)? How will you handle EVs that overstay the limits?
- Set clear rules for sharing charging stations and decide how to make sure everyone knows the rules. Policies might include:
  - Time limits for charging station use, like four hours per day per car
  - Requiring that EVs be charging when parked at a charging station (and moved thereafter)
  - Stating if people are permitted to unplug each other's cars
- Create a grievance process: how do charging station users file a complaint? Who is the arbitrator of disputes? What are the consequences for drivers who abuse the policies?
- If you charge a fee for charging, who collects the fees and how are those fees used? Are the general revenue or designated for charging station maintenance?

What you need to know about ADA

In parking lots with shared parking (spaces are not assigned to a person or a unit), one charging port must be adjacent to a van-accessible ADA parking spot. The images below show two options that are ADA compliant. Your project designer will make sure your charging stations meet the requirements, which includes an accessible route from the charging station to the building.

In this configuration, the charging stations are on the wall of a garage or in the parking space. These spaces will need to be longer than typical parking spaces. Make sure the driving lane behind the spaces is wide enough for maintenance vehicle, like a parking lot vacuum or a refuse truck.





In this configuration, the charging stations are on the sidewalk. The sidewalk must be at least 48 inches of unimpeded space.

The EV charging cord needs to be long enough that a person using a personal mobility device could carry the cord when using the ramp.

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Charging Station Planning Checklist

Your project designer will help you identify a location that is close to the electrical supply and meets all state and local design requirements. his checklist prepares you to help the designer with charging station placement.

- ❒ If you are a property manager, do you have permission from the property owner?
- ❒ Do rental agreements, covenants, and restrictions influence charging station location? For example, do CC&Rs allow installation on an exterior wall?
- ❒ Do you have assigned, deeded, or shared parking?
- ❒ Do you want the charging stations available to the public, employees, or only residents?
- ❒ How will a resident walk from an EV parking space to their residence?
- ❒ Does your electric panel have space to add a breaker? (If all the spaces are filled, an electrician can add a second panel.)
- ❒ Are the parking spaces somewhat close to the panel or an outdoor electrical supply?
- ❒ To run the electric wires from the panel to the charging station, will the electrician need to trench through concrete or walls?
- ❒ For shared parking, will at least one charging port be adjacent to an ADA parking space?
- ❒ If a two-foot-square pedestal is installed, is the route from the parking spot to the door of the building at least 48-inches wide?
- ❒ Can maintenance vehicles navigate around the charging stations and EVs?
- ❒ When a car is charging, will the cord extend over a walkway and create a tripping hazard?
- ❒ Are the parking spaces in the line of sight of a building, the street, or a parking lot attendant?
- ❒ Are the parking spaces level and well-drained, or will drivers stand in a puddle after a storm?
- ❒ Would the screen of the charging station be in the direct path of the afternoon sun?

Ready to power up your property?
Click here to start.

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